## A New Species of ATYPUS (Araneae:Atypidae) From Pennsylvania

**ABSTRACT:** A new species, *Atypus snetsingeri,* is described and observations are reported on its biology. The specimens were collected in Lansdowne, Delaware County, Pennsylvania; males were first observed invading a private swimming pool in considerable numbers.

*Descriptors:* Araneae; Atypidae, *Atypus snetsingeri* new species.

# The Entomologist's Record

**To encourage the publication of concise and useful new distribution records, corrections of previously published erroneous records, misidentifications, short field notes, and current news items about entomologists, amateur and professional, entomology departments and museums, prompt (monthly) publication is offered in this department.**

### A New Edition of the International Code of Zoological Nomenclature

At the closing plenary session of the XVII[e] Congres International de Zoologie held in Monaco, September, 1972, numerous changes and amendments were approved for the Code. A new edition (the Third) is at the printers (1 December 1972). Most of the changes are minor and all make the Code more workable. The Articles affected are these: 11, 13, 17, 23, 24, 26, 30, 32, 42, 45, 52, 59, 74, 79 and 90.

The "50-year rule" has been transferred from Article 23, where it was mandatory, to Article 79, where its application becomes a plenary power of the Commission. The new wording is more explicit and goes far to remove objections to the original statement in Article 23.

Article 74. Lectotypes: has an added subsection that clarifies the type locality of a name. It is the locality of the lectotype, despite any previous restriction. – F. M. Brown, Fountain Valley Rural Sta., Colorado Springs, CO 80911.

### A Neallotype for PINIPHILUS CONFUSUS Fall (Coleoptera: Staphylinidae)

Following his description of *Pinophilus confusus* (H. C. Fall, 1932. New Coleoptera XV. Canad. Ent. 64: 56-62), Fall appended the following note:

> "Described from two examples bearing label Cape Hatteras, North Carolina, Jan. 1903; F. Sherman collector.' Both are probably females. With the above I have associated a male from Dunedin, Florida, IV-4-23 and a female from Paradise Key, Florida, IV-4-25, both collected by myself. These Florida specimens scarcely differ from the North Carolina types except in the just perceptibly shorter elytra, and there can be hardly a doubt that they are specifically the same. In the Dunedin male the sixth ventral is rather narrowly rounded (not at all truncate or emarginate) at apex."

In the collection of the University of California at Riverside is a male specimen with labels reading "Cape Hatteras, January 1903 NC. F. Sherman collector." There is no doubt that this is from a series, part of which came into Fall's possession from which he described *Pinophilus confusus.* This specimen differs from Fall's description of one

*(Continued on page 62)*

# A SCIENTIFICALLY DESIGNED DRAWER FOR SCIENTIFIC INSECT COLLECTIONS[1]

Henry Townes[2]

The drawers used in larger insect collections have designs that were adopted fifty to more than a hundred years ago. In North America there are two "standard" designs. The Cornell drawer, sized 16-1/2 x 19 x 3 inches, was introduced by H. A. Hagen at the Museum of Comparative Zoology and copied by J. H. Comstock for use in the Cornell University collection. Hagen himself copied the drawer from European collections (The Berlin Museum uses this type of drawer). The U.S. National Museum drawer was developed at that institution. It has a double outer wall with slots between the two walls to hold naphthalene fumigant. The outside dimensions are 18 x 18 x 3 inches. Other, less common drawer sizes, in North America are the Philadelphia drawer, used at the Academy of Natural Sciences of Philadelphia and at the University of Michigan, and the California Academy drawer used at the California Academy of Sciences. The Philadelphia drawer is 18 x 13 x 2-1/2 inches, made originally to be twice the size of a Schmitt box (9 x 13 x 2-1/2 inches). In other countries each museum usually has its own drawer size. Despite their diverse origins, these sizes resemble those used in North America.

Since insect drawers of approximately the same size have been adopted in most collections, one would suppose that this must be the best size. But when drawers were first used, insect collections contained mostly larger specimens, especially Lepidoptera. The drawers, if opened, were laid on tables and the curator tended to stand up to his work, stepping from one drawer to another as specimens were studied. If magnification was needed, a hand lens was used rather than a microscope. Working habits today are different and not as well adapted to these drawers, but museums have continued with the sizes acceptable in an earlier period. The

---

[1]Accepted for publication: May 13, 1972.

[2]American Entomological Institute, 5950 Warren Road, Ann Arbor, Michigan 48105

fact that supply houses stock the Cornell and U. S. National Museum styles of drawers is partially responsible for the fact that new collections tend to adopt these sizes without seriously considering their suitability.

Before discussing whether some different size or sizes would be better, one should consider whether it is practical now to make a change. It would certainly be troublesome to mix different sized drawers in the same part of a collection. Anyone with experience is sure of that. But in a large collection it might be practical to have different parts of the collection in different sized drawers, for example with larger drawers for Lepidoptera and smaller ones for Diptera. A change could be made by adding, as new drawers, only the new size, and using the new size only in certain groups of insects. As these groups were gradually moved to the new drawer size, the old sized drawers could be shifted to the parts of the collection (as Lepidoptera) for which the old size was better suited. I think that few curators would be ready to adopt a new size, but after working in about sixty different insect collections and finding what I consider a correctly sized drawer in very few of them, I feel urged to express an opinion.

Modern insect collections, of course, still have Lepidoptera and other larger specimens, but smaller insects now comprise a substantial part. Smaller insects are studied not standing up, but while sitting at a table with a microscope and with the drawer on the same table. The drawer should be small enough for the investigator to reach all corners without moving from his chair. Since specimens are frequently changed from one drawer to another, the drawer size should also be small enough for two drawers (not one) to fit on a table top and still leave room for a microscope, books, papers, and other working materials. This statement might not seem important to one who is not actively working on collections, and even some active workers are so accustomed to the clumsy larger sizes that the unnecessary difficulties are accepted without question.

It is common with the pinning tray system to remove these smaller units for use on the work table and to set the drawer itself to one side. Being able to remove the pinning trays avoids some of the disadvantages of oversized drawers, and it would sometimes be

convenient to do this even if the drawers were smaller. The length of drawers now in use is not a disadvantage. It is the width that is awkward. Reducing the width by about 4 inches would result in a drawer resembling the size of a Philadelphia drawer, but the Philadelphia drawer is now used transversely so that it is wider than long. If the Philadelphia drawer were turned $90^{o}$ so that the longer dimension were the length it would be a very conventional size.

Most large collections now use the pinning tray system and have adopted sizes of trays that can be arranged in four columns per drawer. The largest pinning trays are on half column long (about 8 inches) and the smaller ones are one column long (about 4 inches), one eighth column long (about 2 inches), and one twelfth column (about 1-1/3 inches). These tray sizes are convenient. If a narrower drawer were adopted there would be space for three columns of such trays instead of the present four.

The pinning trays sized to fit the Cornell or the U.S. National Museum drawers have one awkward feature. The tray one fourth column in length (about 4 inches long) turns out to be almost square, but not quite. Care must be taken not to use the tray sideways by mistake as it will not fit that way. It would be better if the tray were exactly square, 4 x 4 inches.

There is a common practice to size the pinning trays so that in combination they don't quite fill a column, leaving space for several wooden blocks 1/4 inch wide to be inserted between the trays to carry labels. The labels on the blocks usually bear generic names and in very small collections family names. The use of label blocks should be discontinued. In research, as opposed to display collections, such label blocks are more time consuming to maintain than time saving in use. Trays sized to accommodate label blocks require the blocks to be inserted to tighten the columns even if they do not carry labels. If labels are needed, a simple card can be slid between the trays, high enough to project above the edge of the tray and bear a label.

The points made above are: That a tray width of four inches is convenient; that the tray of one fourth column length should be exactly square; that there should be no space left for label blocks; and that, to keep the drawer from being too wide, there should be only three columns of trays per drawer rather than four. Taking

these points into account the inside drawer dimension should be 16 inches long by 12 inches wide.

The drawer depth is controlled by the depth needed for specimens on standard insect pins plus the depth of the bottom of a tray, the depth of the pinning material, and an allowance for unusually long pins or specimens projecting above the head of the pin. With insect pins 38 mm long (1-9/16 inches), pinning bottoms a maximum of 3/8 inches thick, tray bottom 1/16 inch thick, and 1/8 inch allowed for extra high specimens or extra long pins, an inside height of 2-1/8 inches is sufficient.

The U.S. National Museum drawer has a double outer wall, with slots between the two walls for naphthalene fumigant. Other drawer styles are fumigated by using a small tray filled with napthalene. In modern buildings it is relatively easy to keep collections free from pests (dermestids). Winter heating makes a dry atmosphere that is unfavorable to the pests, and the absence of woolens, cracks in floors, and stuffed furniture reduces their breeding sites. Insects that fly into buildings at night and die next to windows also make breeding grounds for pests. Window screens keep out this part of the food source of pest infestations. Air conditioned buildings with sealed windows are even less subject to the establishment of dermestid colonies. Tight cabinets for insect drawers provide even greater protection from pests.

Under the conditions existing in most modern insect collections, constant fumigation with napthalene is not necessary. When fumigation is needed, entire cabinets can be fumigated as units and for short periods. Nevertheless, there are times when fumigant is needed in individual drawers, as when they are left out of their cabinets for some weeks. The U.S. National Museum drawer is the only one that makes good provision for naphthalene fumigation. This drawer in fact, overdoes the provision, with places for fumigant in all four walls One double wall with slots for naphthalene should be enough. This should be on the back wall of the drawer, where it will be least in the way.

In some styles of drawers the cover is held on by hooks, in others not. When hooks are present as in the Cornell drawer, they are often not used. Hooks seem to be unnecessary and they should be omitted.

On the front of drawers there is always a drawer pull of some sort, usually a knob at the center, and one or two label holders. The drawer pull is needed. One label holder is also necessary. This can be in combination with a central drawer pull. If it is a separate piece, it should be to the left of center. The label holder should take a card 3 inches wide and 1-1/4 inches high.

On the front of the drawer to the right of the drawer pull, should be the drawer serial number. The number should be repeated on the drawer lid. A common fault is to make these numbers too small, or not black enough. The numbers have to be checked often, to make sure that the correct lid is on a drawer, and they should be easy to find and to read. As another assistance to getting the drawer lids on properly, the back side of the drawer and the lid should be painted a color conspicuously different from the front side. The aggregate time lost in fitting the drawer covers first on backwards and then having to reverse them is considerable. A differently colored back side would minimize this trouble.

Much time is spent prying off stubborn lids. The U.S. National Museum drawer has finger notches for lifting the lid; few other drawer styles do. There should, in fact, be two finger notches on each side, near the front corner, one notch in the lid (2-1/2 inches from the corner) for pressing downward with the thumb, and one notch in the bottom (1-1/2 inches from the corner) for lifting the lid with the index finger.

## Manufacturing the Drawer

Inherent in any practical design for an article is the necessity for it to be easily made. Some thought has been given to this. As materials, the drawers could be made of wood, cardboard, plastic, or metal. I have not seen plastic nor metal insect drawers. If they were made, setting up for a production run would be expensive, and justifiable only if a large number were to be made at one time. Without dismissing plastic or metal as possibilities, I shall discuss further only wood and cardboard, wood first.

In the preceding discussion, inside dimensions of 16 x 12 x 2-1/8 inches have been advocated, with a slot for fumigant in the back of the drawer. Copying the more successful construction details of drawers already in use, a wooden drawer can be designed as in

Figure 1. Outside dimensions would be 17-1/4 x 13-1/4 x 2-5/8 inches. The sides of the drawer are of basswood, tulip tree (yellow poplar), white pine, or other wood that is non-warping, not too hard, and available. The bottom is of 1/8 tempered hardboard (as Masonite). The glass is single strength. Cost of materials for such a drawer is about $1.80: wood, 60¢; hardboard, (12-1/2 x 16-1/2 inches), 17¢; glass (12-1/2 x 16-1/2 inches), 60¢; label holder and drawer pull, 23¢; glue, paint, and varnish, 20¢.

For construction the drawer and the drawer lid can be made separately, then fitted together. But with this method it is difficult to get a good fitting lid except by time-consuming adjustments. An alternate method is suggested here; the drawer sides (lid and bottom) are made of single pieces, grooved as in figure 2C. After the sides, bottom, and top are put together, clamped in place, and the glue hardened, the lid and bottom of the drawer are separated with table saw cuts as in Figure 2C. If the precut grooves in piece A are exactly the right depth, the lid and bottom will fit together perfectly. The top outer edge of the inner flange of the drawer bottom should be beveled a bit with sandpaper or a block plane to help guide the top into place. If the fit is too tight, the outer face of the flange can be sanded to loosen it. An advantage of this method of construction, besides the possibility of saving time, is that the wood grains of the lid and bottom match. Any tendency for the lid to warp will be matched by a similar warp in the bottom and a tight fit will be maintained.

The corners in the illustration (Figure 1) are lap joints. Lap joints are easy to make with a table saw. They can be glued and nailed, or better, glued and clamped in both directions. Other corner joints such as dovetail, or miter and spine can be used, according to inclination and the equipment available.

Before assembly, the slots for the glass and bottom should be partly filled with caulking compound and with glue respectively. Caulking the glass and gluing in the bottom will give the drawer rigidity, and help seal the cracks.

The front, sides, back, and top edges of the drawers should be sandpapered smooth, after first cutting in the finger notches. The back side (top and bottom) should be painted dark brown to contrast with the front and sides. The sides, front and top edge should

be laquered or varnished. Polyurethene varnish is excellent. Paint the inside of the drawer white.

The lids and bottoms of each drawer should be given a corresponding serial number. Place these on the right side of the front, above and below the crack separating the lid and bottom. Make the numbers in black ink, after the sandpapering and before laquering or varnishing.

An inexpensive drawer can be made of cardboard rather than of wood. If an order for 1,000 or more is placed with a cardboard box factory, the cost per drawer would be very much less than for one made of wood. The bottom part of such a drawer would be a cardboard tray 2-1/8 inches deep. The lid can be the same depth and fully telescoping, or can be shallower. It would be possible, but not essential, to have a transparent plastic inset in the lid to simulate a glass top. The slot for the fumigant in the back of the drawer would probably be omitted from a cardboard drawer. Cardboard drawers cannot easily be used in the same cabinet with wooden drawers. To fit the same cabinets, the outside dimensions of cardboard drawers would have to be the same as for wooden drawers, but since their sides are thinner their inside dimensions would be greater. This means that pinning trays sized for wooden drawers would not fit snugly in cardboard drawers of the same outside dimensions, unless there were special insets to take up the extra space. Collections needing a lot of inexpensive storage, however, should consider using cardboard drawers.

## Summary

A smaller drawer for insect collections is advocated as being easier to work with. Inside dimensions should be 12 inches wide, 16 inches long, and 2-1/8 inches deep, to accommodate three columns of pinning trays, each four inches wide. Outside dimensions would be 13-1/4 x 17-1/4 x 2-5/8 inches. Use of label blocks should be discontinued, substituting cards slipped between the trays if generic or other group labels are thought necessary. The back side of the drawer should have slots to hold naphthalene. A method is suggested for making the drawer sides, top and bottom of one piece, cutting the lid and the bottom apart after assembly. The need for finger slots for opening the lid, and a different color for the back side of a drawer is discussed.

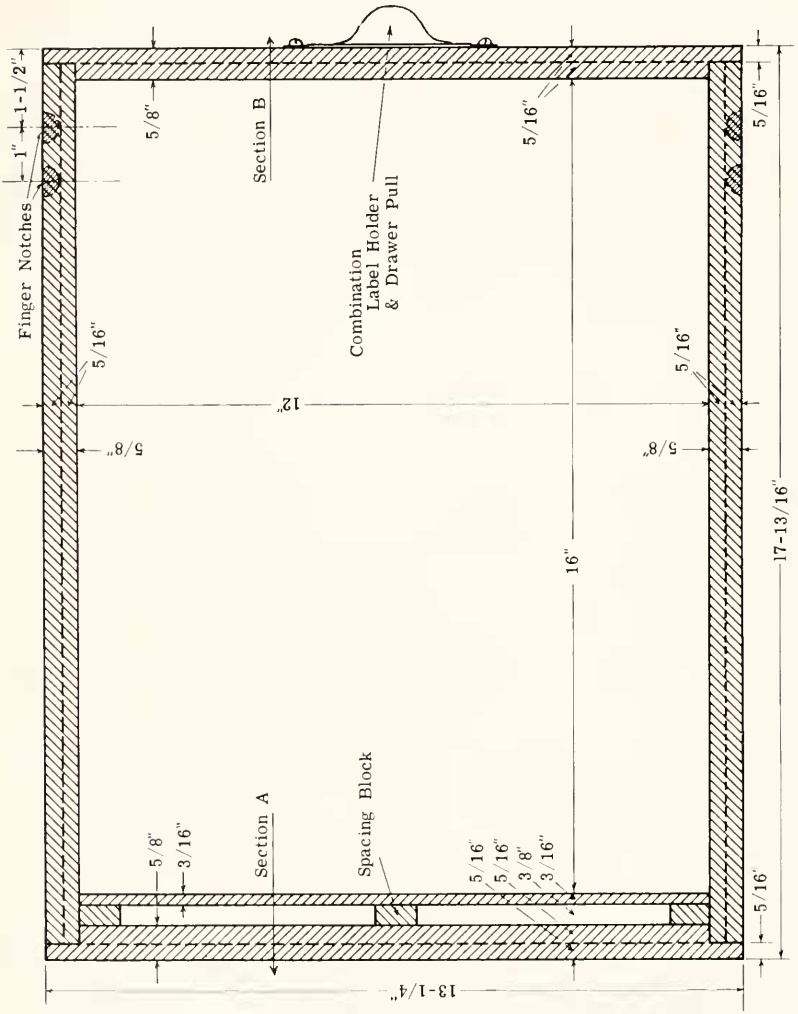


**Figure 1. Insect drawer, top view. Sectional views A and B are shown in Figure 2.**

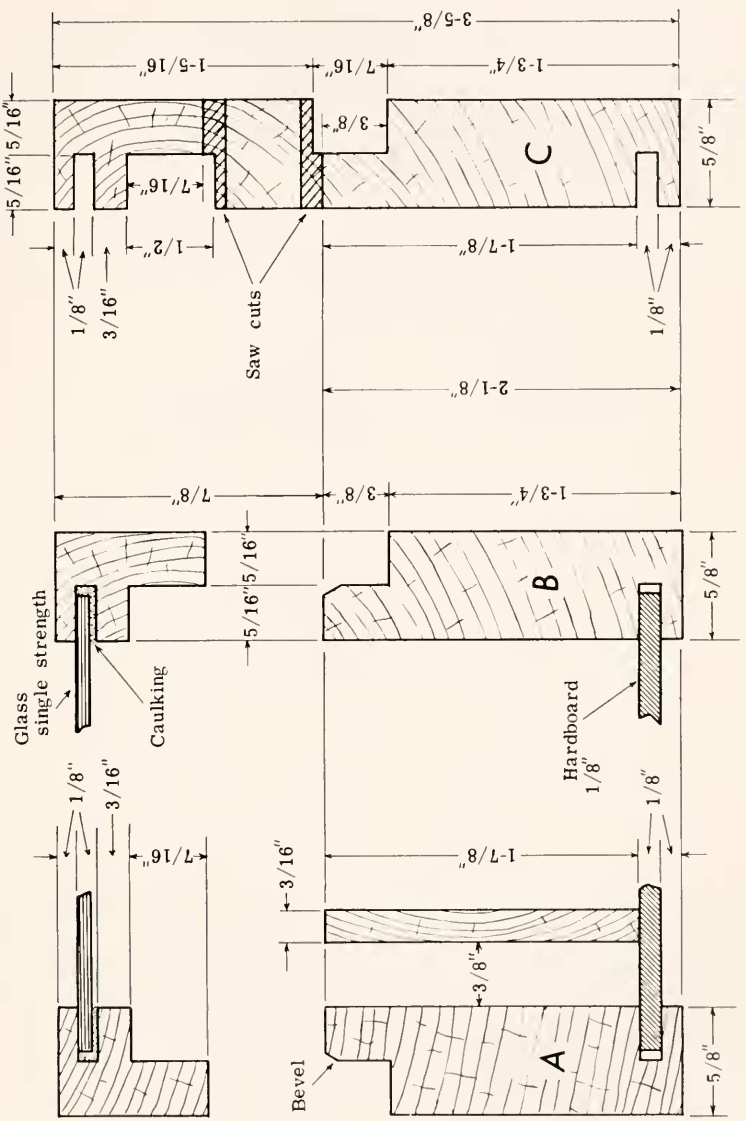


Figure 2. Sectional views of insect drawer to show construction. A, section through back. B, section through front or side. C, section through wood piece for front, back, or sides.

*(Continued from page 52)*

of the two Florida males which he felt hardly a doubt about associating with his female "types". In our specimen the sixth abdominal segment is emarginate asymetrically and somewhat shallowly so that the apex itself is somewhat produced (Fig. 1). I here designate this specimen a Neallotype of *Pinophilus confusus* Fall and have so labeled it. -- Ian Moore, Staff Research Associate, Division of Biological Control, University of California, Riverside, California 92502.

Accepted for publication: March 22, 1972

*Descriptors:* Coleoptera; Staphylinidae; *Pinophilus confusus;* Neallotype.

Figure1. Apex of sixth sternite of *Pinophilus confusus.*

---

### A Predaceous Scarabaeid

In February, 1966 I was collecting insects at Campina Grande, near Curitiba, Brazil. One afternoon while walking a path through a pasture just after a rainstorm had passed, I came across a large writhing earthworm. Frantically crawling over it were several small scarabaeids, apparently trying to cut it into pieces. One short piece, a little longer than thick, was being rolled away like a dung ball, and while I watched another part was cut off and was starting to be rolled away. The observations were terminated by catching two of the beetles. These were sent to Prof. Henry Howden in Ottawa, who reported them to be CANTHON PODAGRICUS Harold. He made the determination by comparison with specimens of this species named by F. S. Pereira in 1959.

CANTHON PODAGRICUS has evidently substituted earthworm pieces for food, in place of dung as used by its congeners. -- Henry Townes, American Entomological Institute, 5950 Warren Road, Ann Arbor, Michigan 48105. Accepted for publication: May 13, 1972.

*(Continued on page 68)*